

U.S. Patent Application Serial No. 10/046,277
Response filed August 18, 2004
Reply to OA dated February 18, 2004

REMARKS

Claims 1-12 are currently pending in this application. Claims 8-10 are withdrawn as being drawn to a non-elected invention.

No claim amendments are being made at this time. It is believed that this Amendment is fully responsive to the Office Action dated February 18, 2004.

In brief, two important requirements of the claimed invention are X: amount (mg/Kg) of the alkali metal and Y: electric conductivity (mS/cm).

As discussed on p.18 of the specification, if the amount X (mg/Kg) of the alkali metal is less than 70, the dispersibility tends to lower and thus it is difficult not only to obtain a stable product, but to obtain a highly concentrated product, which is not economical, and on the other hand, if it is more than 90000, a metallic odor becomes stronger when added to food.

Moreover, if the electric conductivity Y (mS/cm) is less than 0.1, the inorganic particles-containing additive composition tends to reaggregate and when added to a drink or the like, it is difficult to obtain a stable product, on the other hand, if it is more than 15, when added to food, the flavor remarkably lowers by bitterness and stimulus so that the taste of the food is greatly damaged.

By satisfying the above two requirements (a) and (b), as claimed in claim 1, the inorganic particles-containing additive slurry or powder compositions of the present invention are especially superior not only in re-dispersibility in liquid and storage stability in liquid for a long period of time, but also in flavor, which is one of the most important factor of foods.

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Claims 1-4, 6, 7, 11 and 12 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Kemp et al. (6,572,908) or Buddemeyer et al. (6,248,376).

Kemp et al. discloses a highly acidic metalated organic acid as a food additive, more particularly, a prepared nutriment comprising:

a nutriment material; and
a solution or suspension of a. highly acidic metalated organic acid ("HAMO")
absorbed therein or adsorbed thereon (Claim 1).

Claim 2 describes that the HAMO comprises a monovalent or polyvalent cation, an organic acid, and an anion of a strong oxyacid.

In contrast, in the claimed invention it is the inorganic particles-containing additive composition that comprises a polyvalent metal, a phosphoric acid ion, an organic acid having a carboxyl group, and an alkali metal.

Firstly, the present invention and Kemp et al. are different in that either a monovalent cation or a polyvalent cation is contained in a nutrient composition in Kemp et al. while both a polyvalent metal and an alkali metal are contained in the additive composition of the claimed invention.

Second, HAMO is in the acidic region, pH being below at least about 4, preferably 2.5 to be more biocidal (Col. 3, lines 23-31) and the insoluble solid is removed by any conventional method, such-as sedimentation, filtration, or centrifugation (Col. 3, lines 40-42).

Accordingly, the final nutrient comprises only soluble materials. In fact, in Example 1, concentrated sulfuric acid and calcium hydroxide slurry are mixed and the mixture is filtered through

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a 5-micron filter. The filtrate is allowed to sit for 12 hours and the clear solution is decanted to discard any precipitate formed. The same description is seen in Example 2 and thereafter.

In contrast, the claimed invention is directed to a water-difficultly soluble composition which is perfectly different from Kemp et al. which is directed to a water-soluble composition.

Third, the prepared nutrient of Kemp et al. is used to reduce biological contaminants while the additive composition of the present invention is used to reinforce minerals by addition to foods.

In view of the differences above, it does not logically follow that the claimed invention would be obvious from the disclosure of the nutrient in Kemp et al.

Buddemeyer et al. discloses a calcium enriched composition using a composition containing phosphate ions, citrate ions, calcium ions, and a metal hydroxide and water in food products. However, the amount of alkali metal and the electric conductivity are nowhere disclosed in Buddemeyer et al.

As described on page 17, line 8 bridging over to page 18, line 22, in the invention as claimed, a slurry containing at least one phosphoric acid compound as a main component, which comprises a polyvalent metal, a phosphoric acid ion, an organic acid having a carboxyl group and an alkali metal is washed to thus adjust the amount of the alkali metal and the electric conductivity to the predetermined level. When the amount of the alkali metal and/or the electric conductivity is (are) not satisfied, the intended food additive of the claimed invention which is excellent in flavor as well as re-dispersibility and storage stability cannot be provided.

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The Examiner states on p.3, lines 12-16, "However, Buddemeyer et al. disclose a composition containing 7.16% alkali metal, which is seen to have been within the claimed amount (col. 15, lines 10-20). As the composition has been shown, it is seen that the electrical conductivity has been shown. Therefore, it would have been obvious to make the composition as claimed as shown by Buddemeyer et al."

Notwithstanding, as apparent from the attached Declaration made by Mr. Naoki Kubota, Example 12 does not satisfy both the amount of the alkali metal and the electric conductivity of the claimed invention. Example 1 does not satisfy, either.

In fact, Buddemeyer et al. is a conventional art including drawbacks to be solved by the present invention, which just corresponds with comparative examples in the present specification.

As stated above and shown in the attached Declaration, Kemp et al. and Buddemeyer et al. neither suggest nor contemplate the claimed invention and thus this invention is not made obvious even to one of ordinary skill in the art.

Claims 5 and 12 rejected under U.S.C. 103 (a) as being unpatentable over the above combined references as applied to claims 1-4, 6, 7, 11 above, and further in view of Ndife et al. (5,489,440).

Ndife et al . discloses a method for producing an improved rice flour-based oral rehydration solution using enzymes cellulase and protease. The product is designed to treat individuals with

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severe diarrhea brought about by cholera or other causes.

Ndife et al. disclose stabilizers such as carboxymethylcellulose, carrageenan and gum arabic.

However, since claims 5 and 12 depend from claim 1 which is patentable for the reasons as set forth above and the attached Declaration; claims 5 and 12 are patentable, regardless of whether the emulsion stabilizer is disclosed or not by Ndife et al. Ndife et al. does not make up for the deficiencies of Kemp et al. and Buddemeyer et al. combined.

As stated above, the invention as claimed is not made obvious even to one of ordinary skill in the art, whether the references are taken alone or in combination.

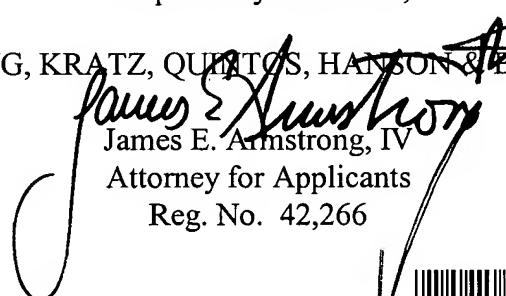
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If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP


James E. Armstrong, IV
Attorney for Applicants
Reg. No. 42,266

JAM/xl
Atty. Docket No. **020048**
Suite 1000
1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930



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PATENT TRADEMARK OFFICE

Enclosures: Petition for Extension of Time
Declaration

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